



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

March 8, 2010

MEMORANDUM TO: File

FROM: Lisa M. Feller, P.E.
Project Development Engineer
Project Development & Environmental Analysis Branch

SUBJECT: Concurrence Point 4A Revisit meeting minutes for the Greensboro Urban Loop / US 29 interchange, Guilford County, WBS Element Nos. 34821.1.3 and 34821.1.4, TIP Project Nos. U-2525 B & C

A NEPA/404 merger team meeting for the subject project was held on January 21, 2010. The following persons were in attendance:

Andy Williams	U.S. Army Corps of Engineers (USACE)
Christopher Militscher	US Environmental Protection Agency
Gary Jordan	US Fish and Wildlife Service
Brian Wrenn	N.C. Division of Water Quality (DWQ)
Amy Euliss	N.C. Division of Water Quality (DWQ)
Renee Gledhill-Earley	State Historic Preservation Office
Travis Wilson	Wildlife Resources Commission
Lydia McIntyre	Greensboro MPO (GUAMPO)
Mike Mills	Division 7
Patty Eason	Division 7
Ritchie Tuttle	Right of Way Branch
Randy Henegar	Hydraulics Unit
Paul Fisher	Hydraulics Unit
Jim Speer	Roadway Design Unit
Danny Gardner	Roadway Design Unit
John Gauthier	Roadway Design Unit
Mark Staley	Roadside Environmental Unit
Rick Lakata	TIP Development Unit
Missy Pair	Project Development & Environmental Analysis Branch (PDEA)
Elizabeth Lusk	PDEA - Natural Environmental Unit (NEU)
Greg Price	PDEA - Natural Environmental Unit (NEU)
Zach McNeill	PDEA - Natural Environmental Unit (NEU)
Drew Joyner	PDEA - Human Environmental Unit (HEU)
Ed Lewis	PDEA - Human Environmental Unit (HEU)
Tris Ford	PDEA - Human Environmental Unit (HEU)
Eric Midkiff	PDEA - Project Development Unit
Beverly Robinson	PDEA - Project Development Unit
Lisa Feller	PDEA - Project Development Unit

The purpose of this meeting was to review the Greensboro Urban Loop / US 29 interchange redesign (New) alternative in comparison to the current (Old) interchange design, select the least environmentally damaging practicable alternative (LEDPA) interchange design, and identify avoidance and minimization measures if the new interchange design was selected as the LEDPA. Attached to these minutes is the concurrence meeting packet which includes background history, maps, and tables showing information pertaining to the interchange design alternatives.

The following items were discussed during the meeting with further clarification shown in italics:

The new Quail Oaks Subdivision entrance: If the old interchange design is chosen as the LEDPA, the entrance to Quail Oaks subdivision and utilities within the subdivision will need to be relocated. What are the impacts and costs associated with this relocation?

Identifying impacts associated with this relocation will require additional surveys since this area is outside of the original study corridor. Also, a geoenvironmental assessment may be needed since an auto mechanics shop was located on the property in the path of the new entrance connector road. The estimated cost to acquire the right of way and construct the new entrance connector road will be at least \$700,000. There will be additional costs to re-design and construct internal subdivision roads and to relocate the utilities within the subdivision. This cost cannot be estimated without paying an outside source with expertise in subdivision design to do the internal road and utility designs and estimate the construction costs.

The revised interchange design and subsequent redesign: Why did NCDOT revise the interchange design from the one shown in the 1990's?

The Greensboro Urban Loop, I-785/I-840, is listed on Page 54 of the 2005 Strategic Highway Corridor (SHC) Vision Plan as Corridor #33, from Greensboro to Danville, VA (39.6 miles of freeway). Also, Exhibits 24 and 27 show the locations of I-785 and I-840, where US 29 is designated as future I-785. On page 119, the Plan states that traffic signals are not allowed on Freeway facilities and connections are provided only at interchanges with a high mobility function. The Texas Box interchange originally proposed in the 1990's at US 29 would have a series of traffic signals and right angle turns that drivers would need to maneuver through to enter onto US 29 or I-840. Along with the adoption of the SHC identifying I-785 and I-840, the traffic forecasts greatly increased which initiated the interchange revision to handle the increased traffic demands. The new freeway to freeway design and the subsequent interchange redesign eliminate all traffic signals between the 2 facilities.

Quail Oaks subdivision property owners and the public: Once a decision is reached by the merger team regarding which interchange design is the LEDPA, NCDOT will hold a small group meeting with Quail Oaks subdivision property owners, the builder and the developer to discuss proposed impacts to the subdivision. In Spring 2010, NCDOT will hold Corridor Protection hearings and file corridor protection maps for U-2525 B and C.

Revised Loop D Design Impacts: NCDOT Roadway Design engineers were able to revise Loop D's vertical alignment and steepen slopes to eliminate impacts to the streams and wetlands under U-2525B. The impacts are now included under U-2525C. The impacts are listed in the revised tables dated 2/2010 attached to these minutes. This revision can be used whether Ramp D is shifted northward or not.

Traffic noise issues: Will a noise reevaluation be completed for this project? Does widening the proposed typical section from a 4-lane section to a 6-lane section count as a significant enough change to warrant a reevaluation?

NCDOT first evaluated the potential noise impacts created by the old interchange design alternative (RED) in Quadrant A near Quail Oaks subdivision. Fourteen noise receptors were located within the proposed right of way limits which effectively removes them as potential noise receptors. TNM[®] Traffic Noise Model software was used to predict future noise levels for the twelve remaining receptors, located closest to the revised alignment, along Assembly Road, Quail Oaks Drive, Flowering Path Lane and southbound US 29. The three highest predicted noise levels among these twelve receptors were located along US 29, with levels ranging from 63 to 66 dBA. The primary source of traffic noise for this area is US 29, with negligible contribution from the ramp in Quadrant A. Consequently, no receptors are impacted by traffic noise as defined in the NCDOT Traffic Noise Abatement Policy and 23 CFR 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise.

Any design changes made subsequent to completion of a traffic noise analysis may necessitate updates to the previous analyses if the design changes are considered to be “significant”. The NCDOT Traffic Noise & Air Quality Group considers a horizontal design modification to be “significant” when an alignment shift moves a travel lane closer to noise receptors by one-half or greater the distance between the original alignment and any residences. Noise levels increase approximately 3 dBA with each halving of distance between their source and a receptor; therefore, relocating a travel lane to one-half its original distance from residences causes an approximate 3 dBA increase in external noise levels for the receptor. A 3 dBA increase is barely detectable by most human beings.

NCDOT evaluated the new interchange design alternative (BLACK) to determine whether significant design modifications have occurred compared to our original Traffic Noise Analysis for the “Texas Box” interchange. We determined that –Y13RPA-, the new ramp in Quadrant A, approximately halves the distance between the original alignment(-RPB1-) and one residence at 4611 Raymond Road (see back of letter dated January 7, 2010 in the January 21, 2010 CP4A Revisit meeting packet for plan view). All other residences are located further from –Y13RPA- than those in existence on the project’s date of public knowledge. No noise barrier was found to be reasonable and feasible in this location during the original Traffic Noise Analysis, and no barrier is found to be reasonable and feasible now. Revisions to the original Traffic Noise Analysis are not warranted when only one residence is potentially impacted. Based upon this information, it is not reasonable, as defined in the NCDOT Traffic Noise Abatement Policy, to investigate noise abatement provisions for any noise receptors in the southwest quadrant of the proposed Greensboro Eastern Loop / US 29 interchange.

Ramp D shift: Provide an alternative design shifting Ramp D northward avoiding direct stream and wetland impacts. What are the resulting natural and human impacts?

Ramp D was horizontally shifted northward further away from the streams and wetlands located in Quadrant D but closer to several homes on Pindals Road. Ramp D’s vertical alignment is below the homes on Pindals Road which will assist in reducing noise

impacts. The direct and indirect impacts are listed in the revised tables dated 2/2010 attached to these minutes. Direct impacts were calculated as wetland and stream impacts within Ramp D's slope stake limits, and indirect impacts are wetland and stream impacts outside of any alignment's slope stake limits within the interchange quadrant. The maps showing the shifted Ramp D design in green are also attached. DWQ requests that NCDOT mitigate for both the direct and indirect impacts. This stipulation will be added as a project commitment.

U-2525 B and C permits: USACE feels it is unnecessary to do a new permit application for projects U-2525 B and C; however, U-2525 B and C should be permitted together using a phased permit. Preliminary plans for U-2525 C will need to be submitted when permit drawings are submitted for U-2525 B. This provision will be added as a project commitment.

NCDOT-recommended LEDPA interchange design and avoidance & minimization: NCDOT recommends that the new interchange design with Ramp D shifted northward be selected as the least environmentally damaging practicable alternative. The following avoidance and minimization measures were utilized with the new interchange design alternatives:

- Horizontal and vertical alignment adjustments throughout the interchange area were made to avoid and minimize impacts.
- Slopes were increased to 2:1 within jurisdictional areas to minimize impacts.
- At least 18 home relocations were avoided.
- The need to construct a new entrance into Quail Oaks subdivision was eliminated.

The merger team members feel that another face to face meeting is not necessary. The merger meeting minutes with additional information, the shifted Ramp D design maps, the revised 2/2010 impacts tables, and the concurrence signature sheet will be sent to the team members for their review and approval. The approved concurrence signature sheet was signed by the merger team members and is attached to these minutes.

If there are any questions or comments, please contact me at (919) 733-7844, ext. 262 or by email at lfeller@ncdot.gov.

cc: Attendees (via email)
Attachments